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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,769	11/29/2000	Benjamin L. Furman	SWRI-2749A	1922

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EXAMINER

LE, HOA T

ART UNIT PAPER NUMBER

1773

DATE MAILED: 09/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

17, 19, 47

Office Action Summary

Application No.

09/726,769

Applicant(s)

FURMAN et al

Examiner

H. T. Le

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-124 and 128-152 is/are pending in the application.
- 4a) Of the above claim(s) 27-32, 39-44, 76-85 and 113-124 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26, 33-38, 45-75, 86-112 & 128-153 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I, claims 1-26, 33-38 and 45-112, and group A species (claims 66-75) in Paper No. 11 is acknowledged. The traversal is on the ground that there exists no serious burden on the examiner which would justify maintaining the restriction requirement. This is not found persuasive because serious burden on search and examination has been shown in the restriction requirement by the diverse classifications of the claims between these three group inventions. In addition, applicants argue that because the claims in groups II and III contain the limitations of claims belong to group I; therefore, if claims of group I are found allowable, then the claims in group II and III are necessarily allowable. This is based on the eventuality that the claims of invention I be allowable. However, there exists at least 50% chance that claims of group I will not be allowable. In that case, applicants' argument of no serious burden must fail.

The requirement is still deemed proper and is therefore made FINAL.

Accordingly, claims 27-32, 39-44, 76-85 and 113-124 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

2. The disclosure is objected to because of the following typographical errors:
- a. Page 13, line 3, "purposes is".

- b. The symbol "SI" in the formula at page 11, line 8, " $\text{CH}_2=\text{CHSI}(\text{CH}_3)_2\text{Cl}$ " is queried. SI seems to indicate a symbol of sulfur and iodine atoms which cannot exist in such structure. Correction or clarification is required.
- c. The Fracture Toughness of 70% silica-filled resin (listed at third column and last row of the table) is queried. How could a fluctuation factor be more than 50% of the value.
Appropriate correction is required.
3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 8 and 52-55 are objected to because of the following informalities:
- In claim 8, the misspelling word: "complexed" (line 2).
- In claims 52-55, line 1 "said a" is meaningless. In addition, "said" suggests an antecedent basis having been provided. No such antecedent basis set forth in claims upon which these claims depend. Appropriate correction is required.
5. Claims 25 and 26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the

claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 25 and 26 add nothing to claims 21 and 22 respectively upon which they depend.

6. Claim 134 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 99. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-26, 33-38, 45-75, 86-112 and 128-153 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for functionalized zirconium dioxide particles, does not reasonably provide enablement for metal oxide other than zirconium oxide. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. No specific guidance as to how to choose suitable functionalities for metal oxides other than zirconium oxide. Surface functionalization is a complex process and without any specific teaching, one having ordinary skill in the art cannot just pick

and choose any “low steric hindrance” and “high steric hindrance” to arrive at a successful functionalization of a metal oxide as broadly disclosed in the specification.

9. Claims 1-26, 33-38, 45-75, 86-112 and 128-153 are rejected under 35 U.S.C. 112, first paragraph for containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to provide an adequate description of the term “mobile adhesion promoters”. Such term is not defined and only “silanes” is listed as the exemplifying promoter. No explanation as to why silanes are suitable as a “mobile adhesion promoter”.

10. Claims 56-65, 87-91, and 93-97 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 56-60 contain improper Markush language. The penultimate and last members must be linked by the word “and” not “or”.

Claims 61-65 are deemed indefinite in view of their dependency upon claims 56-60 respectively.

Claims 87-91 are indefinite in that “method” has no antecedent basis.

Claims 93-97 are deemed indefinite in view of their dependency upon claims 87-91 respectively.

11. References are cited as art of interest.

Information Disclosure Statement

12. The IDS papers filed April 23, 2001 and June 28, 2001 (paper Nos. 8 & 9) appear to have been misplaced. Please resubmit the papers (not copies of references) so that the initialed PTO-1449 (if any) can be returned to applicant.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 703-308-2415. The examiner can normally be reached on 10:00 a.m. to 8:30 p.m., Mondays to Friday.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9610 for regular communications and for After Final communications.



H. T. Le
Primary Examiner
Art Unit 1773

hl
September 4, 2002